

ON *BRACHYCHITON POPULNEO-ACERIFOLIUS* F.v.M.
(THE CRIMSON-FLOWERED KURRAJONG).

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Allow me to invite your attention to a paper by the late Baron von Mueller, "Notes on Hybridism in the genus *Brachychiton*," in these Proceedings, ix., 379, 1884.

I was present at the presentation of the paper, which was read by the late Dr. J. C. Cox, who had drawn Mueller's attention to the Mulgoa tree described. It was, and is growing at "Fern Hill," his birthplace; and I remember asking him what was the history of the tree, but he did not know it for certain, although Mueller says it "arose" in his brother's garden ("Fern Hill").

When I took charge of the Botanic Gardens, my attention was drawn to a smaller but similar tree then in the Garden Palace Grounds, but the history of that tree was also uncertain. Some years since, I visited the Mulgoa tree, and have a complete suite of specimens. By means of the newspapers, I got into touch with owners of similar or closely allied trees in various parts of the State.

Although Mueller did not publish a strictly formal description, he admitted, and I think rightly, as a matter of convenience, the species *Brachychiton populneo-acerifolius* F.v.M., formally into the New South Wales flora (Second Census, 1889).

The type (Mulgoa) tree was, in 1908, about 40 feet high, and 3 feet in diameter at a foot from the ground. Its spread of branches is fully 40 feet. The leaves are strictly simple; no appearance of lobes could be detected. The only *Brachychiton* in the vicinity is *B. acerifolius*; there is some *B. populneus* in the district, though not at Fern Hill.

The rachises in *B. populneo-acerifolius* are greenish-yellow to creamy-white; and wholly scarlet, except in an occasional streak or strip, in *B. acerifolius*.

The panicles are simple in *B. populneo-acerifolius*, much branched in *B. acerifolius*.

The flower-buds of *B. populneo-acerifolius* are, when unexpanded, long-pointed, flowers 4-6 lobed, the lobes recurved. In *B. acerifolius*, the shape of the buds is more turbinate and, when unexpanded, nearly flat-topped, giving the bud the aspect of a pear, but, in rare cases, the bud is somewhat pointed.

The flowers appear to be much more numerous than in *B. acerifolius*. "The colour of the calyces holds the middle between that of the respective organ of the parent-plants; it is pale yellowish outside, much as in *B. populneum*, but inside crimson and not sprinkled as in *B. acerifolium*. . . ." (Original description). This requires some correction. The flower of *B. populneo-acerifolius* is usually self rose-pink and not pale yellowish, although some flowers may be a little pale yellowish outside; but inside, sprinkled rose-pink, giving the general impression of greyish-rose, except at the base of the throat where it is greenish-yellow. The outside is Salmon Old Rose No.143, shade 1, and inside Madder Carmine, No.241, shade 4, of Rép. de Couleurs, to speak with precision.

The flower of *B. acerifolius* is not "sprinkled"; it is quite a self scarlet. It is No.85 (shades 1 and 2) or scarlet, of Rép. de Couleurs.

(2). The tree which many knew as the Garden Palace one, is strictly typical *B. populneo-acerifolius*; it was removed in consequence of the widening of Macquarie Street to Bed No.9, Middle Garden, in 1912, where it is now about 18 ft. high, 2 ft. in girth 3 ft. from the ground, and it flowers every year, usually in November-December, but sometimes January. Its origin is unknown.

(3). There are some typical trees of *B. populneo-acerifolius* in gardens at Parramatta. of considerable age. I first received specimens from Mr. Fred. Williams.

(4). Mr. J. A. T. Rochfort, Inspector of Stock, Jerilderie, sent me some specimens from a tree growing at the Public School, which are quite typical of *B. populneo-acerifolius*. Mr. Rochfort sent pods, which are rather larger than those of *B. populneus*, and smaller than the pods of *B. acerifolius*.

All the following trees are also of the crimson-flowered strain, and are usually described as flowering freely in November or December. It is only known from New South Wales at present.

(5). At Wentworth, in a public street, there is a tree, perhaps 25 feet high, and there is no other like it in the town. I have received specimens at different times from the Mayor, Mr. R. J. P. Long, the Head Teacher (whose name I have lost), His Honor Judge Bevan, Sergeant J. Mc. A. Clark, and Miss Louise Buckridge, of the Public School. They vary from typical *B. populneo-acerifolius* to with slightly lobed leaves.

Some years ago it was believed that this tree came from the Botanic Gardens at Melbourne, but Mr. Guilfoyle, to whom I spoke on the subject, had no recollection of the matter.

Judge Bevan says there is a similar tree in the Public Garden, North Adelaide.

(6). Mr. Joseph Stevens, Manly, sends a specimen with leaves of the *B. acerifolius* type.

(7). Mr. Edward Bowman, Skellatar, Muswellbrook, sent specimens which grew in the mountains about 12 miles due east of Muswellbrook, between Ravensworth and Muswellbrook. Some replanted by him about 1903 at Skellatar. Known as "Mountain Kurrajong." Scrub since totally destroyed. These plants (only two survived) are natural hybrids. Grew amongst Cedar, Nettle-trees, &c. Very close to *B. acerifolius* as far as leaves are concerned.

(8). Mr. Thomas H. H. Goodwin, "Ruvigne," Gunnedah, sends twigs from a tree growing in Gunnedah, but slightly lobed, but obviously showing affinity to *B. acerifolius* in the leaves. Fruits freely.

Mr. James Muffett, Ulamambri, Coonabarabran, sends twigs with leaves pointed and lobed; crimson flowers; ordinary light flowers (*populneus*) were growing on the same tree.

Of all these trees, those of Mr. Edward Bowman are the only ones of which we are certain we know the origin, and that the origin, at least in those cases, is spontaneous.

The forms (hybrids) I have seen, vary almost between the two extremes of the reputed parents, so far as foliage is concerned.

The type has a simple leaf, without lobing, but we have, in various trees, examples of leaf-outline approaching that of *B. acerifolius* and some of the "diverse" shapes of *B. diversifolius*, while the texture is intermediate between the thickish *B. acerifolius* and the thinner *B. populneus*, and the shade of green is intermediate also. The venation of the leaves of the hybrid is intermediate.

It is obvious that we have a recent and not well-established species; in naming plants, I, of course, keep as close to the type as possible for *B. populneo-acerifolius*, but include all crimson-flowering forms in it, with a herbarium-note when they much approach one parent or the other.

The instability of some forms of *Brachychiton* is referred to in a brief paper by the late Mr. Betcher and myself, entitled "Notes on *Sterculia* (*Brachychiton*) *lurida* and *discolor*," these Proceedings, xxiii., 159, 1898.

His Honor Judge Bevan, speaking of the Wentworth tree, says:—"The seed that has been taken from it, has always produced the white-flowered variety [the common Kurrajong, *B. diversifolius*, J.H.M.] . . . it stands close to Kurrajong trees of the white-flowered variety."

Sergeant J. Mc. A. Clark makes a similar statement. Here is an experiment, on Mendelian lines, to be followed up, but the difficulty of the length of time one has to wait for the flowers of the progeny is a factor, when one considers the few years a man usually occupies an official post. Sowings have twice mysteriously disappeared already—distributed, or planted out by a zealous gardener.

The evidence is not conclusive that the species *B. populneo-acerifolius* originated at Mulgoa. It may have so originated, but it would not account for a precisely similar form, as old or older, at Parramatta, and the other trees, typical *B. populneo-acerifolius*, or inclining to one or other reputed parent, which are to be found in different parts of New South Wales.

The Botanic Gardens, Sydney, which celebrates its centenary this year, continued the work of the "Governor's Garden" or "Government Garden" in the propagation and distribution of

trees. Brachychitons have been distributed for many years, perhaps over a century. We obtain the seeds from various sources, from private donation, and from our own collectors. Seed received as *B. acerifolius* or *B. populneus* would be sown under that name, and nothing would be easier, in a large nursery stock, than to pass over a few hybrids (obtained we do not know whence, as the seeds of the same reputed species are not kept separate unless there is reason for so doing), especially as the plants are young, and the fact that a hybrid has been received would, by most people, only be noticed when it displayed its flowers. It is in the highest degree unlikely that the Mulgoa and Parramatta trees were not received from the Botanic Gardens, and the same remarks apply to the trees scattered through the State. Neither *B. acerifolius* nor *B. populneus* occurs naturally in the Mulgoa garden; I believe that any trees of these species in the neighbourhood were introduced (probably from the Botanic Gardens), as I believe the hybrid was.